

Appl. No. 10/695,367  
Amdt. dated 11/21/07  
Reply to Office action of 8/22/07

REMARKS

Reconsideration of the application is requested.

Claims 1, 3-5, and 7-13 remain in the application. Claims 1, 5, and 8 have been amended. Claim 2 has previously been cancelled. Claim 6 has now been cancelled.

In item 1 of the section entitled "Claim Rejections – 35 USC § 102" of the above-mentioned Office action, claims 1, 7-9, and 11 have been rejected as being anticipated by Doi et al. (JP 63-02393) under 35 U.S.C. § 102(b).

In item 2 of the section entitled "Claim Rejections – 35 USC § 102" of the above-mentioned Office action, claims 1, 5-8, and 10-11 have been rejected as being anticipated by Xiao et al. (Energy Conversion and Management, January 2002, (43), Pages 103-108; PTOL-892) in view of Eska et al. (DE 19630073 A1) under 35 U.S.C. § 102(b).

In item 3 of the section entitled "Claim Rejections – 35 USC § 102" of the above-mentioned Office action, claims 1, 5-8, and 10-12 have been rejected as being anticipated by Bader (Thesis, Univ. Auckland, February 2002) in view of Eska et al. under 35 U.S.C. § 102(b).

In item 1 of the section entitled "Claim Rejections – 35 USC § 103" of the above-mentioned Office action, claims 5-6 have been rejected as being unpatentable over Doi et al. under 35 U.S.C. § 103(a).

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In item 2 of the section entitled "Claim Rejections – 35 USC § 103" of the above-mentioned Office action, claims 12-13 have been rejected as being unpatentable over Doi et al. in view of either Hayward (US 5,882,570) or Chavatal et al. (US 3,361,684) under 35 U.S.C. § 103(a).

In item 3 of the section entitled "Claim Rejections – 35 USC § 103" of the above-mentioned Office action, claims 1 and 5-11 have been rejected as being unpatentable over Xiao et al. in view of Eska et al. under 35 U.S.C. § 103(a).

In item 4 of the section entitled "Claim Rejections – 35 USC § 103" of the above-mentioned Office action, claims 3-4 have been rejected as being unpatentable over Xiao et al. in view of Eska et al. and Neuschutz et al. (US 2002/0033247) under 35 U.S.C. § 103(a).

In item 5 of the section entitled "Claim Rejections – 35 USC § 103" of the above-mentioned Office action, claims 12-13 have been rejected as being unpatentable over Xiao et al. in view of Eska et al. and either Hayward or Chavatal et al. under 35 U.S.C. § 103(a).

In item 6 of the section entitled "Claim Rejections – 35 USC § 103" of the above-mentioned Office action, claims 1 and 5-12 have been rejected as being unpatentable over Bader in view of Eska et al. under 35 U.S.C. § 103(a).

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In item 7 of the section entitled "Claim Rejections – 35 USC § 103" of the above-mentioned Office action, claims 3-4 have been rejected as being unpatentable over Bader in view of Eska et al. and Neuschutz et al. under 35 U.S.C. § 103(a).

In item 8 of the section entitled "Claim Rejections – 35 USC § 103" of the above-mentioned Office action, claim 13 has been rejected as being unpatentable over Xiao et al. in view of Eska et al. and Chavatal et al. under 35 U.S.C. § 103(a).

The rejections have been noted and the claims have been amended in an effort to even more clearly define the invention of the instant application. Support for the changes is found original claims 5-6 as well as examples 1-3 described in the specification of the instant application.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Claim 1 calls for, *inter alia*, a

the expanded graphite is present in an amount of 5 to 40% by volume and is formed of particles comprising comminuted, compacted expanded graphite product with a bulk density of from 60 to 200 g/l.

Initially, it is noted that in items 2 and 3 of the section entitled "Claim Rejections – 35 USC § 102", the Examiner has improperly made § 102 rejections using two documents.

Doi et al. discloses a "lubricating composite member obtained by using expanded graphite powder and production thereof." This shows that a completely different usage is disclosed. Further in view of structural differences, it is noted that even if a person skilled in the art would consider the disclosed oil as phase change material (PCM), the mass and volume ratio of these materials, which should be in the order of 60 to 95 percent by volume, are far away from the ratio of the present invention. The mentioned thermosetting and thermoplastic resins do not act as

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PCM or would not be considered in doing so at the time the invention was filed. Further, Doi et al. do not disclose that the expanded graphite is formed of particles comprising comminuted, compacted expanded graphite product with a bulk density of from 60 to 200 g/l, as recited now in claims 1 and 8 of the instant application.

Bader and Xiao et al. each discloses mixtures comprising PCM and exfoliated/expanded graphite. However, none of them discloses mixtures with a volume fraction of expanded graphite being in the range of 5-40%.

The main difference between Bader and Xiao et al., on one hand, and the present invention, on the other hand, lies in the fact that Bader and Xiao et al. disclose only mixtures consisting PCM and the product immediately obtained after thermal expansion of graphite without any further treatment. According to Xiao et al., p. 104 § 2.2, the expanded graphite is obtained by thermal expansion/exfoliation of expandable graphite without further treatment. Bader merely discloses the fact that "exfoliated graphite" was used.

According to amended claims 1 and 8 of the instant application, the expanded graphite used in the present invention is treated further (compacted and comminuted), resulting in an increased bulk density. These expanded graphite materials are not disclosed by Bader or Xiao et al. Eska et al. do not make up for the deficiencies because Eska et al. disclose only the impregnation of graphite bodies by evacuation and pressure infiltration with molten PCM.

Clearly, none of the cited references discloses the usage of pre-compacted and comminuted expanded graphite.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 and 8. Claims 1 and 8 are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claims 1 or 8.

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In view of the foregoing, reconsideration and allowance of claims 1, 3-5, and 7-13 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

If an extension of time is required, petition for extension is herewith made. Any extension fee associated therewith should be charged to Deposit Account Number 12-1099 of Lerner Greenberg Stemer LLP.

Please charge any other fees that might be due with respect to Sections 1.16 and 1.17 to Deposit Account Number 12-1099 of Lerner Greenberg Stemer LLP.

Respectfully submitted,



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